Name

ARM 36.22.307, 601, 605 1003, 1004, 1011, 1013 1103, 1222, 1240, 1301 1306, 1309, and 1417

Submit In Quadruplicate To:

#### MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102

MAY - 8 2019

HOUTANA DOADD OF OIL &						
S	UNDRY NOTICES A	ND REPO	RT OF WELLSGAS CONSERVA	ATION . BILLINGS		
Operator Denbury Onshore, LLC			Lease Name: Unit			
Address 5320 Legacy Drive			Lease Type (Private/State/Fede	ral):		
City <b>Plano</b> State <b>TX</b> Zip Code <b>75024</b>			Private			
Telephone Number (972) 673-2000 Fax Number ()			Well Number: 11X-8R			
Location of Well (1/4-1/4 section and footage measurements):			Unit Agreement Name:			
NW-NW 1000' FNL & 950' FWL, Section 8, T10N-R58E			Cabin Creek Unit			
		Field Name or Wildcat:				
			Cabin Creek F	ield		
If directionally or horizontally drilled, show			Section, Township, and Range: Sec 8, T10N -	DESE		
API Number:	PI Number: Well Type (oil, gas, injection, other):			N30E		
25 025 21020 State County Well	Oil		County: Fallon County	, MT		
Indicate below with an X the nature of	of this notice, report, or other	data:				
Notice of Intention to Change plans		Subseque	ent Report of Mechanical Integrity T	est 🗆		
Notice of Intention to Run Mechanical Integrity Test X Su		Subseque	Subsequent Report of Stimulation or Chemical Treatment			
Notice of Intention to Stimulate or to Chemically Treat		Subseque	Subsequent Report of Perforation or Cementing			
Notice of Intention to Perforate or to Cement		Subseque	Subsequent Report of Well Abandonment			
Notice of Intention to Abandon Well		Subseque	Subsequent Report of Pulled or Altered Casing			
Notice of Intention to Pull or Alter Casing		Subsequent Report of Drilling Waste Disposal				
Notice of Intention to Change Well Status		Subsequent Report of Production Waste Disposal				
Supplemental Well History			ent Report of Change in Well Status	— I		
Other (specify) Convert to Salt Water Disposal Sub		Subseque	ent Report of Gas Analysis (ARM 36	3.22.1222)		
Describe Proposed or Completed Operations:  Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.						
Denbury requests approval to convert the subject wellbore from Producer to SWD in the Madison formation. Please see supporting documents for additional information. Public Notice has been submitted to the Fallon County Times, Billings Gazette and Helena Independent Record for immediate publication. Sage Grouse notification has also been submitted.						
		-				
BOARD USE ONLY		The un	ndersigned hereby certifies that the info	ormation contained		
			on this application is true and correct:			
Date			1 // 1/1/ 1////			
		5	5/7/2019 / / / / / / / / / / / / / / / / / Date / Signed (A	gent)		

Title

Naomi Johnson - Regulatory Compliance Specialist

Print Name & Title

## SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.

Township 10N 8

**BOARD USE ONLY** 

**CONDITIONS OF APPROVAL** 

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.



## Recompletion Procedure

Cabin Creek 11X-8R API#: 25-025-21020, Sec 08 – T10N – R58E Fallon County, MONTANA

## **OBJECTIVE OF OPERATION:**

- Squeeze off existing Madison perforations @7,447'-7,460'
- Drill out existing CIBP @ 7618'
- TA SM/IL/RR
- Complete as Madison Salt Water Disposal

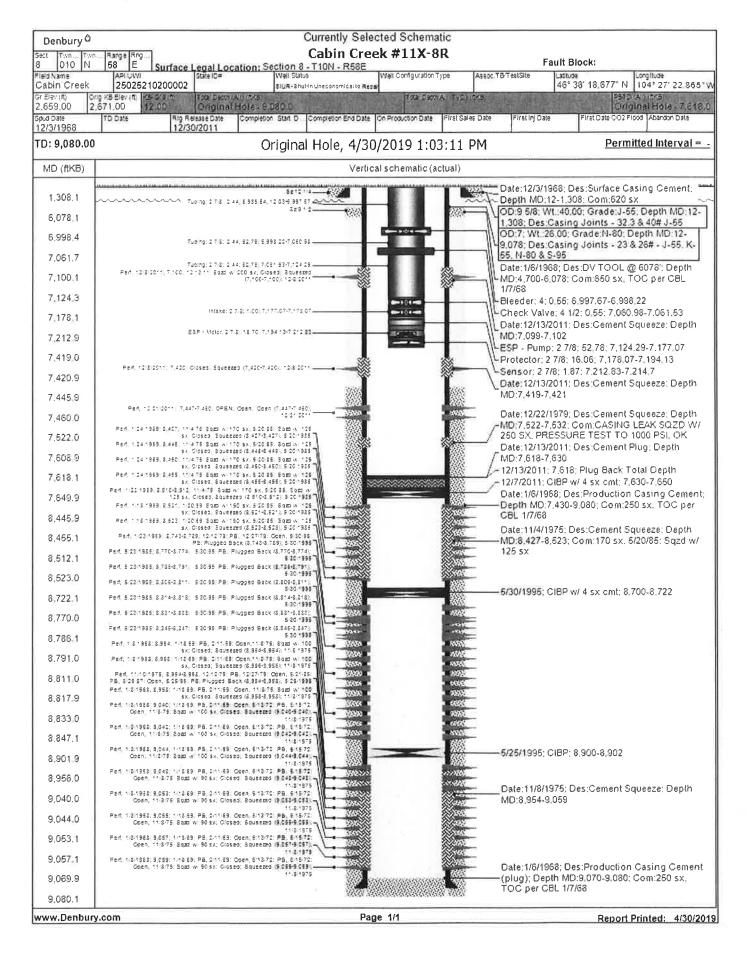


## **Procedure:**

- 1. NOTE: Check local Well File before beginning job. Check location and anchors.
- 2. MIRU workover rig. Check well pressures. Kill well if necessary.
- 3. NU BOP. Test BOPs as per Denbury standards.
- 4. MIRU Schlumberger to pull ESP equipment. POOH and lay down 2-7/8" tubing and ESP equipment.
- 5. PU bit and scrapper Clean out to CIBP@ ±7,618'. Circulate hole clean, TOOH.
- 6. TIH w/pkr on work string, set pkr @±7,417' (30' above top perf). Establish injection rate and pressure. Test csg to 800# (report any leaks and remediate)
- 7. MIRU Cementing Unit. Lay and test lines. Mix and pump 100 sx of cement to squeeze the existing Madison (MC) Perforations @ 7,447'-7,460'. WOC. RDMO Cementers.
- 8. PU bit and drill out cement. Test squeeze to 500# (if doesn't hold, prepare to squeeze again).
- 9. If squeeze holds continue down to drill out cement and CIBP @± 7,618'. Clean out hole to top of CIBP @ ±8,700'.
- 10. TIH w/CICR on work string, set CICR @± 8,395' (30' above top perf). Establish injection rate and pressure. If perforations are plugged off alter the next step to spotting 200' balanced plug to isolate the existing perforations @ 8427'-8523'. Test csg to 800# (report any leaks and remediate)
- 11. MIRU Cementing Unit. Lay and test lines. Mix and pump 100 sx of cement to squeeze the Existing Interval. Sting out of retainer and leave 5 sx on top of CICR. Circulate hole clean. TOOH 5 stands. WOC. RDMO Cementers.
- 12. TIH to tag cement before TOOH.
- 13. MIRU wireline to run CBL. Report TOC to Plano and State. If not adequate cement across disposal zone (~11' above and below disposal zone) prepare to block squeeze and re-run CBL.
- 14. MIRU Wireline to perforate Madison from 7,653'-7,700', 7,747' 7,762' & 7,773' -7,800' (89' total) at 4 spf, 90° Phasing (charges/exact perf depths TBD).
- 15. RIH with test packer and work string. Set packer @ ±7,613 (~40' above new perfs) and establish injection rate. Stimulate well if necessary with acid and bio balls. Flow back load if well will flow.
- 16. POOH and lay down packer and work string.
- 17. PU retrievable packer and 2-7/8" coated tubing (IPC) with packer @ ±7,613'. Hydro test tubing while TIH.
- 18. Circulate packer fluid. Set packer @+/-7,613'. Land tubing, ND BOP, NU Wellhead. Pressure test to 800#.
- 19. RD MO WO rig. Clean location.
- 20. MIT well once permit is issued.
- 21. Put well on injection once state has approved.

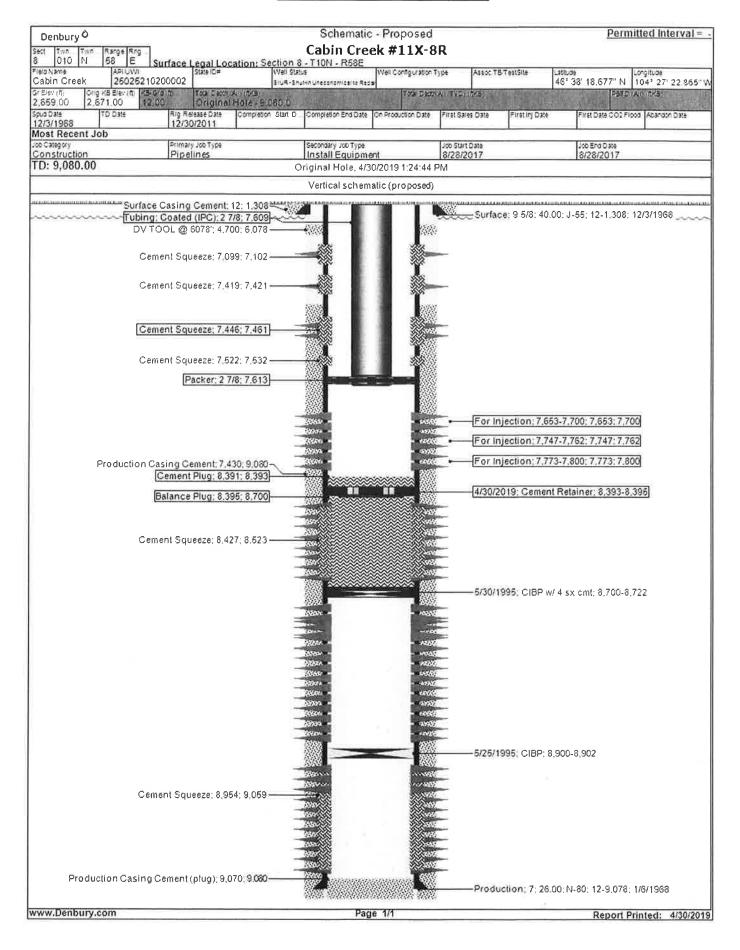


## **Current Schematic**





## **Proposed Schematic**



# MONTANA BOARD OF OIL AND GAS CONSERVATION UNDERGROUND INJECTION CONTROL PERMIT APPLICATION

Denbury Onshore, LLC Cabin Creek 11X-8R Cabin Creek Field Section 8, T10N-R58E Fallon, Montana

#### Area of Review

The area of review (AOR) is a fixed radius of ¼ mile from the well bore of the subject well. The area of review is shown on the attached map.

## Notification of Surface Owner(s)

Surface owners holding properties within the prescribed AOR were notified of Denbury's intent to apply for a permit to commence water injection into the subject well bore. Notification by registered mail was sent to the following surface owner(s):

John L. & Carolyn A. Hadley 921 Cap Rock Rd. Baker, MT 59313-9411

Attached is a copy of the letters sent to surface owners, giving notice of our intent to apply for this injection permit.

## Public Notification

Notice of intent to apply for a permit to inject water into the subject well has also been posted in the following newspapers for public inspection.

Helena Independent Record P.O. Box 4249 Helena, Montana 59604-4249

Billings Gazette 401 N Broadway Billings, MT 59101

Fallon County Times P.O. Box 679 Baker, MT 59313-0679

Also attached is a copy of the legal notice submitted to the newspapers which provided the public with knowledge of our intent to apply for an injection permit.

#### Fresh Water Sources (Surface & USDW) within the AOR

I am still looking into this, I have not been able to get the GWIC website to work and be able to determine if there are any Freshwater wells in this radius.

No known surface or underground sources of drinking water will be affected by salt water injection into the subject well.

#### Existing Well Bores within the AOR

There are four existing wellbores that fall within the ¼ mile radius of the subject well. Down hole schematics for these well bores are attached.

Cabin Creek 12-8 (25-025-21020) is a shut-in producer. We are currently working to permit this well to SWD.

Cabin Creek 21-8 (25-025-05567) is an active Injector.

Cabin Creek 22-8 (25-025-05560) is plugged and abandoned.

Cabin Creek 11-8 (25-025-05568) is plugged and abandoned.

#### Corrective Action Proposal

No corrective action is deemed necessary for the subject well or other existing wells contained within the ¼ mile AOR.

#### Formation Tops

Formation	MD (ft)*
Charles A	6803'
Charles B	6947'
Mission Canyon	7244'
Lodgepole	7802'
Devonian-Undifferentiated	8401'
Silurian-Undifferentiated	8418'
Stony Mountain	8748'
Red River	8906'

<sup>\*</sup>KB Elevation 2671'

#### Injection Pressures (Madison)

Surface fracture Pressure = [Fracture Gradient x Depth to Perforations] –

[S.G. of Injected Fluids x 0.433 psi/ft x Depth to
Perforations] + Tubing Friction (assumed Negligible)

Depth to top perforation = 7490'

S.G. of Injection Fluid = Approximately 1.005 (see representative water analysis)

Fracture Gradient = Approximately 0.8 psi/ft

Surface Fracture Pressure = [0.8 psi/ft x 7490'] – [1.005 x 0.433 psi/ft x 7490'] = 5992 psi – 3259 psi = 2733 psi

#### Operating Data

Actual operating conditions will be limited to a pressure not exceeding fracture pressure or pressure that causes fluid to go out of zone. Based on attached calculations, we request a permit for a limiting surface pressure of 2733 psi, the fracture pressure at the Madison top perforation.

The annular space between the tubing and casing will be filled with fresh water treated with a corrosion inhibitor, a scale inhibitor and an oxygen scavenger as outlined in the construction procedures.

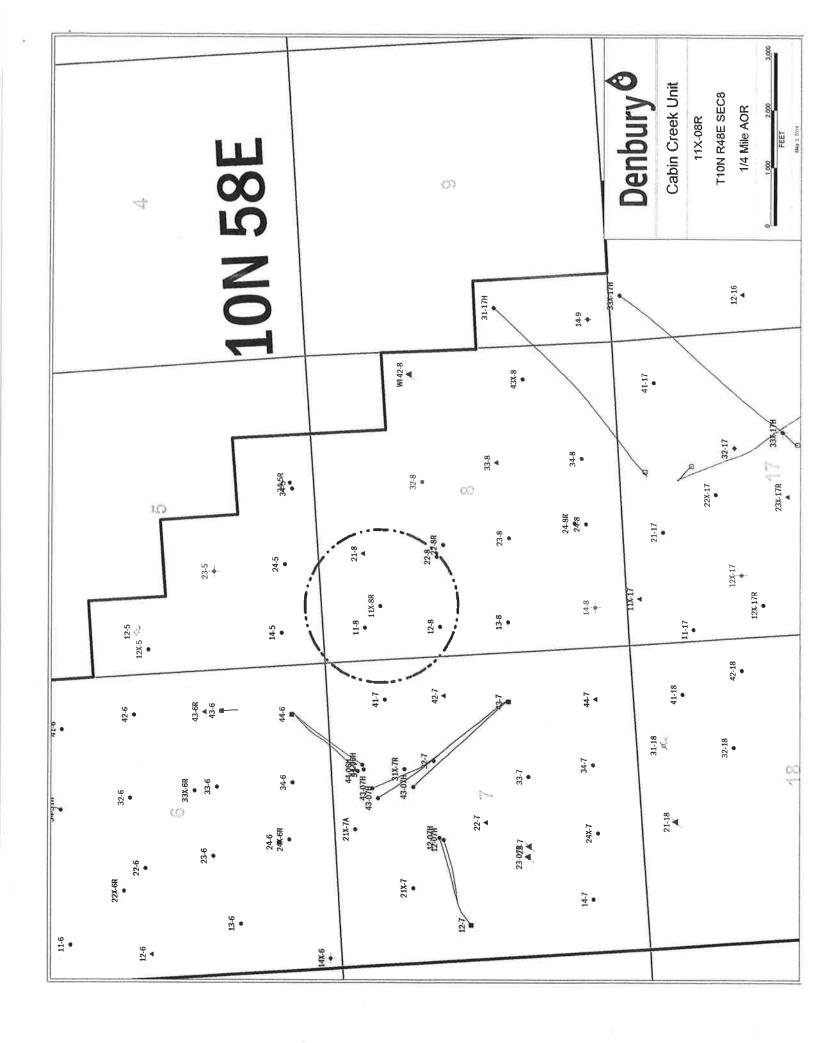
Injected fluids into the subject well will be field salt-water from the Cabin Creek Unit. A representative analysis of the injectate is attached.

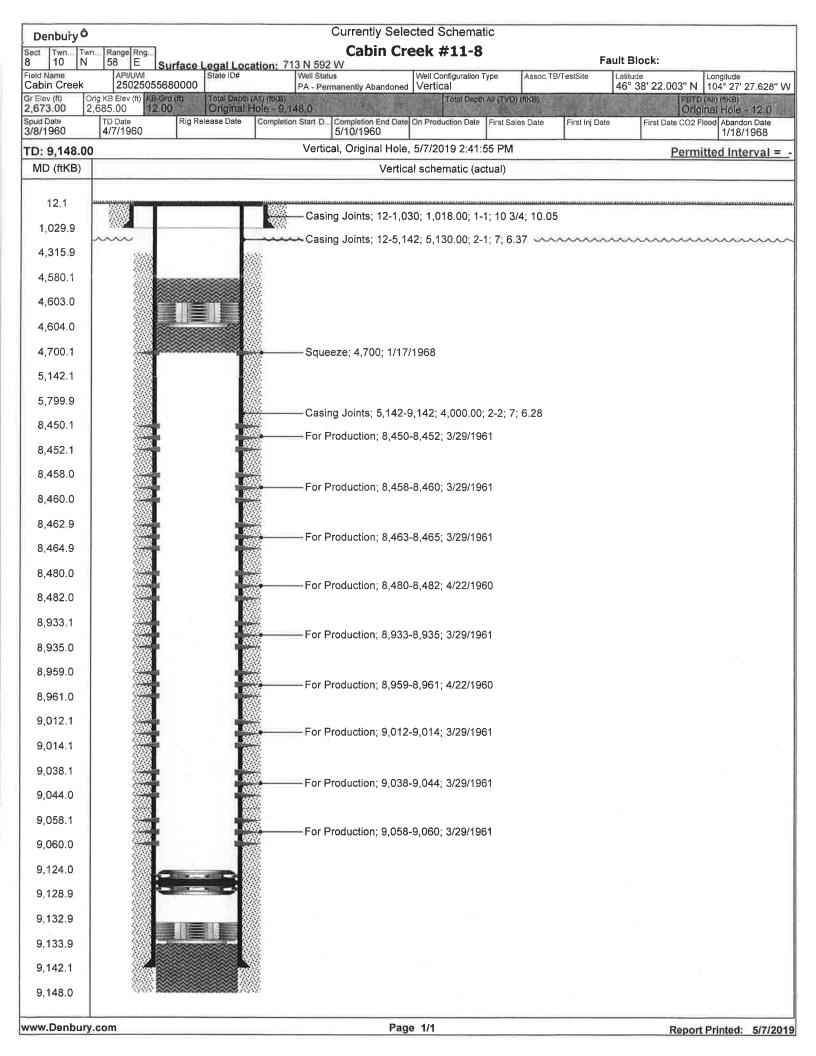
#### **Conversion Procedures**

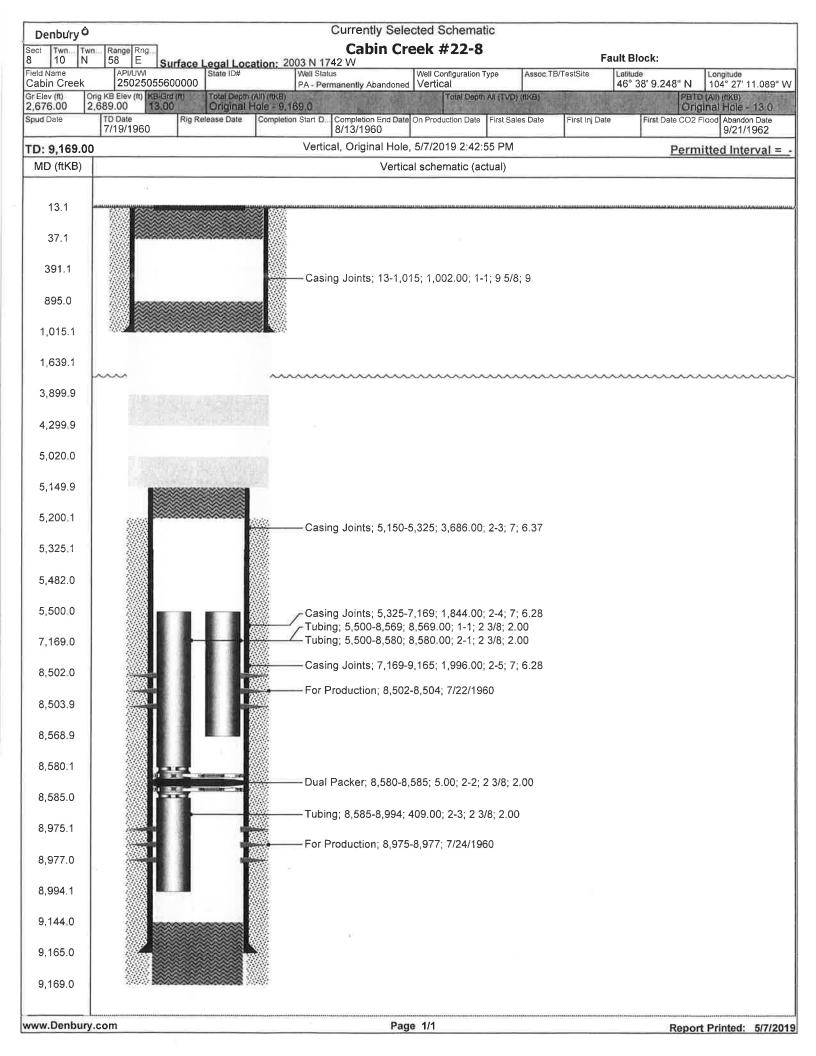
The Cabin Creek 11X-8R is currently a shut-in producer. Denbury desires approval to perform conversion operations on the subject well in advance of salt water disposal approval. Work on the well would proceed, however injection would not commence until official approval is received from the Board. Contract personnel, working according to Denbury's plan, specifications, and safety practices may be employed to perform some or all of the actual onsite conversion operations.

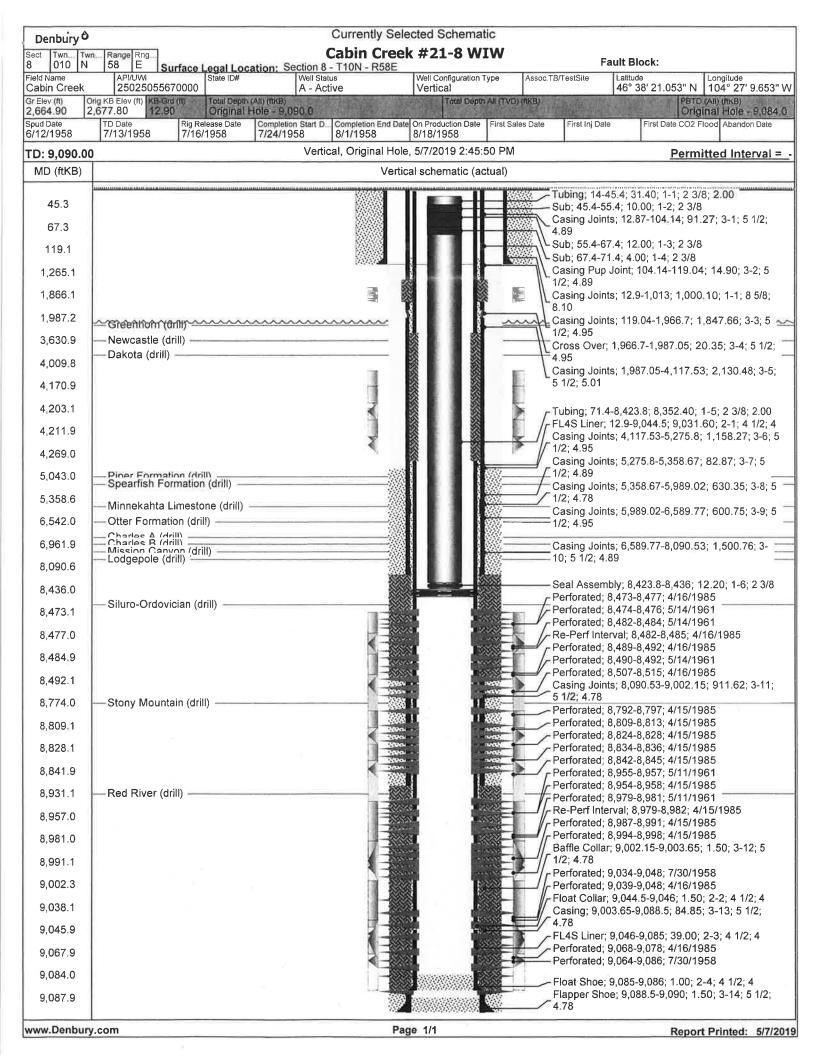
#### Aguifer Exemption

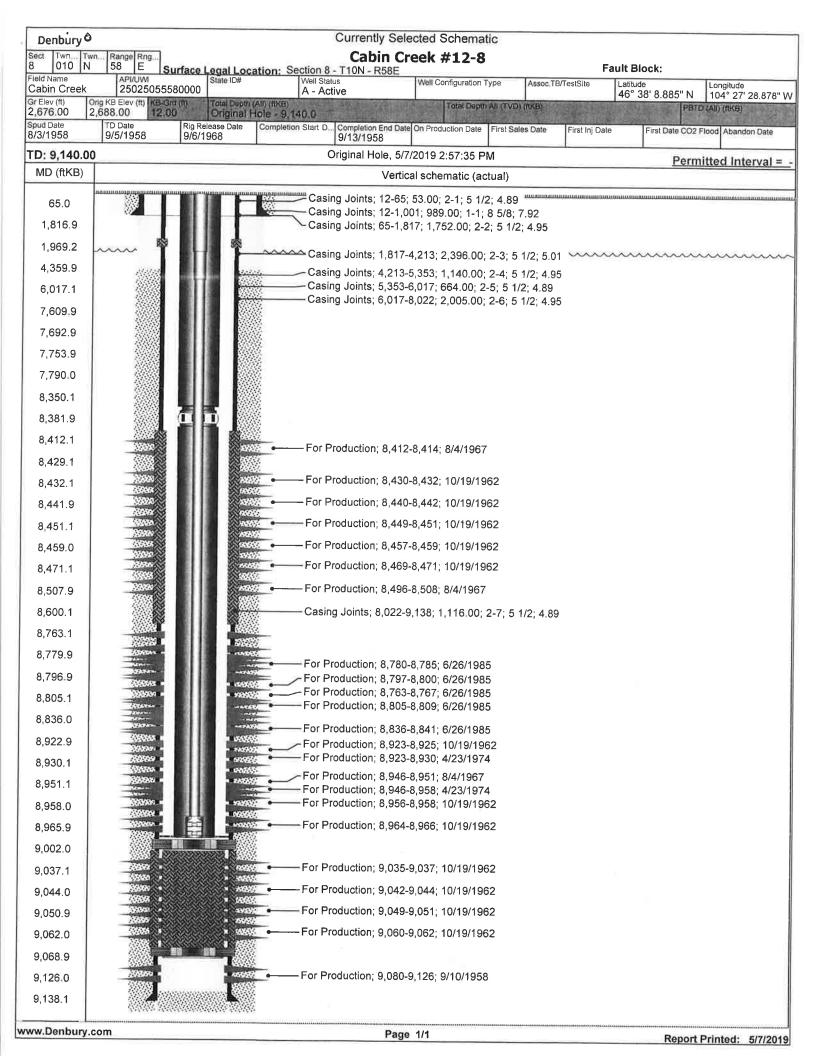
An Aquifer Exemption will be requested.











To: FALLON COUNTY TIMES

Re: LEGAL NOTICES

#### Comments:

PLEASE POST THE FOLLOWING LEGAL NOTICE(S) IN YOUR PUBLICATION TO APPEAR ONE TIME AS SOON AS POSSIBLE.

PLEASE SEND A SIGNED AND DATED AFFADAVIT TO THE MONTANA BOARD OF OIL & GAS CONSERVATION (ATTN: GEORGE HUDAK) ATTESTING TO THE PUBLICATION OF THE NOTICE(S) ALONG WITH A PUBLISHED COPY OF THE NOTICE(S). THE BOARD'S MAILING ADDRESS IS:

MBOGC ATTN: GEORGE HUDAK 2535 ST. JOHNS AVE. BILLINGS, MT 59102

PLEASE RETURN A PUBLISHED COPY OF THE NOTICE(S) TO MY ATTENTION AT OUR PLANO ADDRESS LISTED BELOW. ALSO, PLEASE BILL ALL CHARGES FOR YOUR SERVICES TO MY ATTENTION AS WELL:

DENBURY ONSHORE, LLC ATTN: NAOMI JOHNSON 5320 LEGACY DRIVE PLANO, TX 75024

FOR QUESTIONS REGARDING THIS MATTER, PLEASE CONTACT NAOMI JOHNSON AT (972) 673-2552 OR EMAIL TO naomi.johnson@denbury.com.

THANKS!

To: BILLINGS GAZETTE Re: LEGAL NOTICES

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THANKS!

Page 1 of 2 05/01/2019 16:09:43 Ad Number 12296411 Ad Key **Order Number** 20888192 Salesperson R19 - Tersesa Cox R19 PO Number Publication Billings Gazette 60083782 DENBURY RESOURCES, INC Section Customer Class Liner Contact Gauri Gajewar Sub Section Class Liner 5320 LEGACY DRIVE Address1 Category 2250 LEGAL NOTICES Address2 05/03/2019-05/03/2019 Dates Run City St Zip **PLANO TX 75024** Days Phone (972) 673-2552 1 x 6.03, 67 lines Size Fax Words 281 Ad Rate Legal 1day Printed By Tammy Ward Ad Price 194.92 **Entered By** Tammy Ward **Amount Paid** 0.00 **Amount Due** 194.92 Keywords Cabin Creek Notes

BEFORE THE BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA

Zones

In the Matter of the application of **Denbury Onshore**, LLC for a Permit to Convert an Existing Well to Water Injection Use,

NOTICE OF INTENTION TO APPLY FOR A CLASS II INJECTION WELL PERMIT

- Name and address of Applicant:
   Denbury Onshore, LLC
   5320 Legacy Drive
   Plano, TX 75024
- 2. Legal Description including County and Approximate Footages of Surface Location of Proposed Oil and Gas Well: ( and projected bottom-hole location, if a directional or horizontal well)

Cabin Creek 11X-8R Location: NW-NW, 1000' FNL & 950' FWL, Sec. 8, T10N-R58E Fallon County, MT.

- 3. Source of fluids to be injected: Produced Water from Denbury Onshore, LLC Operations located in the Cabin Creek Field.
- 4. Zone or formation, including depth, into which fluid will be injected.

  Madison Formation at approximately 7490'- 7800'.
- Statement that an Aquifer Exemption will or will not be requested.
   An Aquifer Exemption will be requested.

Notice is hereby given that an application for a Class II injection Well Permit at the surface location set forth above will be filed with the Montana Board of Oil and Gas Conservation. Pursuant to Rules 36,22,1409, Administrative Rules of Montana, a public hearing will be held regarding said application. The hearing will be held at the Board of Oil & Gas in the Conservation Hearing Room, Billings, Montana on Thursday, June 13, 2019. An interested party may demand opportunity to be heard by the Montana Board of Oil and Gas Conservation concerning said application.

Page

: 2 of 2

05/01/2019 16:09:43

Order Number

Ad Key Salesperson Publication

12296411

Contact

Address1

Address2

City St Zip

Phone

Fax

PO Number Customer

20888192

60083782 DENBURY RESOURCES, INC Section

Gauri Gajewar 5320 LEGACY DRIVE

**PLANO TX 75024** (972) 673-2552

**Sub Section** Category Dates Run Days

Ad Number

Class Liner 2250 LEGAL NOTICES 05/03/2019-05/03/2019

1 x 6.03, 67 lines

Billings Gazette

Class Liner

R19 - Tersesa Cox R19

Size Words 281 Ad Rate

Legal 1day Ad Price 194.92 **Amount Paid** 0.00 • **Amount Due** 194.92

Printed By **Entered By** 

Tammy Ward Tammy Ward :

Cabin Creek

Keywords Notes Zones

Montana Board of Oil and Gas Conservation 2535 St. Johns Avenue

Billings MT 59102 Office: (406) 656-0040 Fax: (406) 655-6015 Published May 3, 2019 To: HELENA INDEPENDENT RECORD

Re: LEGAL NOTICES

#### **Comments:**

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THANKS!

# BEFORE THE BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA

In the Matter of the application of	)	NOTICE OF
	)	INTENTION TO APPLY
Denbury Onshore, LLC	)	FOR A CLASS II INJECTION
	)	WELL PERMIT
for a Permit to Convert an Existing Well to Water Injection Use.	)	

1. Name and address of Applicant:

Denbury Onshore, LLC 5320 Legacy Drive Plano, TX 75024

2. Legal Description including County and Approximate Footages of Surface Location of Proposed Oil and Gas Well: (and projected bottom-hole location, if a directional or horizontal well)

Cabin Creek 11X-8R Location: NW-NW, 1000' FNL & 950' FWL, Sec. 8, T10N-R58E Fallon County, MT.

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Produced Water from Denbury Onshore, LLC Operations located in the Cabin Creek Field.

4. Zone or formation, including depth, into which fluid will be injected.

Madison Formation at approximately 7490'-7800'.

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Montana Board of Oil and Gas Conservation

2535 St. Johns Avenue Billings MT 59102 Office: (406) 656-0040

Fax: (406) 655-6015

May 7, 2019

John L. & Carolyn A. Hadley 921 Cap Rock Rd. Baker, MT 59313-9411

RE:

Cabin Creek Field Cabin Creek 11X-8R Section 8, T10N-R58E Fallon County, MT

Dear Surface Land Owner,

Within the Cabin Creek Field, Denbury Onshore, LLC plans to convert the Cabin Creek 11X-8R to a Salt Water Disposal well.

In accordance with the rules and regulations of the Montana Board of Oil and Gas Conservation (MBOGC)—administered Underground Injection Control (UIC) in Montana, Denbury is required to give notice to each owner of land within one-quarter mile radius of the well site, that we have applied for a permit to perform this work.

Therefore, as a landowner within the prescribed radius, we are hereby informing you that we have applied to the MBOGC for a permit to convert the subject well to salt water disposal. You may comment on the application at any time by mail or phone before the hearing or be present at the hearing. The hearing will be held on Thursday June 13, 2019 at the Board of Oil & Gas in the Conservation Hearing Room. It is located at 2535 St. Johns Avenue, Billings, Montana 59102.

For further information, contact Naomi Johnson at (972) 673-2552 or George Hudak of the MBOGC at (406) 656-0040.

Sincerely,

Naomi Johnson Regulatory Compliance Specialist Denbury Onshore, LLC

PLAGE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS. FOLD AT DOTTED LINE CERTIFIED MAIL



May 7, 2019

John L. & Carolyn A. Hadley 921 Cap Rock Rd. Baker, MT 59313-9411

RE:

Cabin Creek Field Cabin Creek 11X-8R Section 8, T10N-R58E Fallon County, MT



91 7199 9991 7032 7451 0380

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Sincerely,

Naomi Johnson

Regulatory Compliance Specialist

Denbury Onshore, LLC